THE MEDICINAL MALLOWWORTS OF INDIA.

BY

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The Malvaceae include 35 genera, and over 700 species distributed chiefly in the warmer regions of both hemispheres. They are essentially tropical, diminishing rapidly as they recede from the equator, and they are more numerous in the northern tropics and in America than in the Old World. All the members agree in containing mucilage freely, and in possessing no unwholesome properties. Some contain free acids, and are employed as refreshing drinks; others yield volatile oils, and are classed among stimulants. The seeds contain a fixed oil, and their testa is often woolly; the bark of many is very tenacious.

Among the products obtained by analysis may be mentioned :— (1) *mucilage*; (2) *furfurol*; (3) *glucosidal pigments*—althaein, gossypetin, malvin—; (4) *glucosides*-gossypitrin, isoquercitrin, quercimeritrin—; (5) *nitrogenous substances*—B-asparagin, betaine, choline—; (6) *alkaloids*—ephedrine, pseudophedrine—.

The medicinal Mallowworts of the world belong to 17 genera: Abutilon (tropical and subtropical regions); Althaea (temperate regions); Cienfuegosia (America, Africa, Australia); Gossypium (tropical and subtropical regions); Hibiscus (tropical and subtropical regions); Kydia (India); Lavatera (Mediterranean, Australia, mid-Asia); Malachra (warm America, West Indies); Malva (northern temperate regions); Malvastrum (America, South Africa); Malvaviscus (warm America); Napaea (North America); Pavonia (tropical and subtropical regions); Sida (cosmopolitan); Sphaeralcea (Cape Colony, America); Thespesia (warm regions); Urena (tropical and subtropical regions).

The medicinal Mallowworts of India are included in 11 genera: Abutilon, Althaea, Gossypium, Hibiscus, Kydia, Malachra, Malva, Malvastrum, Pavonia, Sida, Thespesia, Urena.

A. Herbs or shrubs. Ripe carpels separating from the axis. Styles as many as the carpels.

I. Ovule solitary, ascending.

a. Stigmas linear.

1. Bracteoles 6-9 ... ... Althaea.
2. Bracteoles 3 ... ... Malva.

b. Stigmas capitate ... ... Malvastrum.

II. Ovule solitary, pendulous.
Carpels convergent at the points or beaked. Sida.

III. Ovules 2 or more.
Carpels with no false partition ... Abutilon.

B. Styles or stigmatic branches twice as many as the carpels.

I. Carpels opposite the petals.

a. Carpels unarmed ... ... Malachra.
b. Carpels beset with spines ... ... Urena.

II. Carpels opposite the sepals ... ... Pavonia.

C. Herbs or shrubs. Fruit capsular. Sepals leafy.
Staminal tube truncate or 5-toothed at the apex.
I. Stigmas spreading. Seeds reniform. Stamens numerous. Bracteoles 5 or more ... ... Hibiscus.
II. Stigmas coherent in a club-shaped mass.
a. Bracteoles 3-5, small ... ... Thespesia.
b. Bracteoles 3, large, cordate ... ... Gossypium.

D. Trees. Sepals leathery. Styles connate or free.
Fruit capsular or indehiscent. Leaves simple or lobed. Bracteoles 4-5 ... ... Kydia.

Abutilon.

The genus numbers 120 species, natives chiefly of the tropical and subtropical regions of both hemispheres.

The leaves of all the species contain a large quantity of mucilage. The roots are regarded as cooling, astringent, and tonic. The seeds are considered antidysenteric.

The following species are used medicinally in China—*A. Avicennae* Gaertn.—; in Indo-China—*A. Avicennae* Gaertn., *A. indicum* G. Don—; in Malaya and the Philippine Islands—*A. indicum* G. Don—; in Gold Coast—*A. asiaticum* G. Don, *A. mauritianum* Sweet—; in La Reunion—*A. exstipulare* G. Don, *A. glaucum* Sw., *A. hirtum* G. Don, *A. indicum* G. Don—; in Somaliland—*A. glaucum* Sw.—.

Carpels more than 10, usually 15-20.
A. Carpels pointed or with a distinct mucro.
Carpels 8-13 mm. long.
a. Carpels hairy, ultimately glabrate, shining ... *A. indicum.*
b. Carpels densely hairy, ultimately shaggy ... *A. asiaticum.*

B. Carpels obtuse without a mucro.
I. Corolla 5 cm. diam.
a. Fruit globose, densely silky villous ... *A. glaucum.*
b. Fruit roughly hairy ... ... *A. hirtum.*
II. Petals hardly exceeding the sepals ... ... *A. Theophrasti.*

1. **Abutilon asiaticum** G. Don occurs in the Western Peninsula and in Ceylon. It is scattered over the tropics of both hemispheres.

In Gold Coast an infusion of the leaves macerated in water along with spices is drunk for venereal troubles.

In Southern Nigeria the juice of the plant is applied as an emollient to relieve soreness of the nates in young children.

Arabic: Hambok, Hanbuk—; *Bengal*: Petari—; *Ewe*: Kusiti—; *Fanti*: Nwarha—; *Ga*: Fufuba-tsho—; *Hindi*: Jhampi, Kangahi, Kanghi—; *Krepi*: Didinglome—; *Kuka*: Mulu—; *Marathi*: Chakrabhenda, Kangori, Petari—; *Sanskrit*: Balbija, Kalikanghi—; *Sinhalese*: Anoda—; *Songhai*: Talca-ouragna—; *Tamil*: Perundutti, Tutti—; *Telugu*: Botlabenda, Nugubenda, Peddabenda, Tutturubenda—; *Twi*: Apongo, Mmofra forowa—; *Uriya*: Jhonkapedi—.

2. **Abutilon glaucum** Sw. is fairly common in India and Ceylon It extends to Afghanistan, the Mediterranean region, Arabia, Egypt, tropical Africa, the Cape, and Australia.

At Nasirabad the mucilaginous leaves are considered as a cure for piles. In La Reunion they are used as a pectoral.

Kachhi: Gidarwar, Tutare—; *Las Bela*: Bur—; *Nasirabad*: Giddarwal—; *Somali*: Balambal morodi—; *Swahili*: Balambal morodi—.

3. **Abutilon hirtum** G. Don occurs in the United Provinces and the Central Provinces, whence it spreads to South India and Ceylon; in Sind and Baluchistan, extending to Arabia and tropical Africa. It is distributed to Malaya and Australia.

The roots, leaves, and seeds are medicinal, and good substitutes for those of *A. indicum*.

Bengal: Barkhangi—; *Cawnpore*: Barabanghi, Barkhangi—; *Hindi*: Barkhangi—; *Sunderbuns*: Bara kanghi, Bar potari—; *Tamil*: Vadattutti—; *Telugu*: Belabenda—; *Uriya*: Karpuripotro—.

4. **Abutilon indicum** Sw. is found throughout the tropics.

A decoction of the bark, leaves, and seeds together has been long used by the Hindus on account of its mucilaginous and diuretic properties.

Boiled milk, whisked with the fibrous twigs, coagulates; the fluid obtained by decantation is regarded by hakims as efficacious in hoemorrhoids when given internally.

The infusion of the root is prescribed in fevers as a cooling medicine, and is considered useful in strangury, haematuria, as also in leprosy.

The bark is valued as a diuretic.

The leaves are cooked and eaten in bleeding piles. A decoction is used in bronchitis, in catarrhal bilious diarrhoea, in gonorrhoea and inflammation of the bladder, and in fevers; it is prescribed as a mouth-wash in cases of tooth-ache and tender gums.

The root and leaves boiled with raisins and strained, make a pleasant diluent and demulcent.

The seeds are reckoned aphrodisiac, and are used as a laxative in piles, and in the treatment of coughs. They are burned on charcoal and the rectum of children affected with thread-worms is exposed to the smoke. Infused in hot water they form a cooling drink.

According to the Chinese in Hong-Kong, the seeds are employed as an emollient and demulcent; the root is used as a diuretic and pulmonary sedative, and the flowers and leaves as a local application to boils and ulcers. Porter Smith states that the seeds and the entire plant are used as 'demulcent, lenitive, diuretic, laxative and discutient remedies. Puerperal diseases, urinary disorders, chronic dysentery and fevers are treated with the seeds'.

The slightly bitter bark is considered diuretic in the Philippines. The root, leaves, and flowers are used as an emollient.

Arabic: Deishar, Masht-ul-ghola, Masht-ul-ghoul—; *Bengal*: Potari—; *Bombay*: Chakrabenda, Etari, Kangoi, Kangori, Pamaolni—; *Brahui*: Baibaro, Gogharo—; *Burma*: Bonkhoe, Bonkhoye, Thanurchok—; *Canarese*: Gidutingi, Hettukisu, Hettutti, Kisangi, Srimudre, Srimudrigida, Tutti—; *Chinese*: Kuan Sha Yuan—; *Cutch*: Balbij—; *Deccan*: Chakrabenda, Etari, Kangoi, Kangori, Pamudni—; *Goa*: Petari, Tupkadi—; *Guam*: Malbas, Malva, Matbas—; *Gujerati*: Dabali, Kantaki—; *Hindi*: Jhampi, Kandhi, Kanghani, Kanghi, Potari, Tepari, Tutri—; *Hongkong*: Tung K'uci—; *Ilocano*: Lulupao—; *Indo-China*: Coi xay, Dok tok lai—; *Kharwar*: Kakhi—; *Konkani*: Voddlipettari—; *Malaya*·

Kwan sa yin—; *Malayalam*: Katturam, Katturan, Pitik-kapattu, Tutti, Tuvatti, Uram, Velluram—; *Marathi*: Akakai, Kansuli, Karandi, Madmi, Mudra, Mudrika, Pidari, Vikankati—; *Mauritius*: Mauve du pays—; *Mundari*: Pusi-katadaru—; *Niger*: Abeokuta—; *Persian*: Darakhteshanah, Darakhteshane—; *Philippines*: Malvas, Malvas de Castilla, Tabing—; *Porebunder*: Bapat—; *Portuguese*: Fruta gargontilha, Malwa—; *Punjab*: Pilibuti, Sanbal—; *Rajputana*: Dabi, Jhili, Tarakanchi—; *Sanskrit*: Atibala, Balika, Balya, Bhuribala, Ghanta, Kankati, Rishiprokta, Shita, Shitapushpa, Vikankata, Vatyapushpika, Vrishya-gandha, Vrishyagandhika—; *Santal*: Mirubaha—; *Siamese*: Klorb tabart—; *Sind*: Khapato, Pilibuti, Sunbul—; *Sinhalese*: Anodagaha—; *Sunderbuns*: Kanghi, Potari—; *Tagalog*: Cuacuacohan, Giliggiligan, Guilingguilingan, Melbas—; *Tamil*: Nallatutti, Paniyarattutti, Perundutti, Tutti—; *Telugu*: Adavibenda, Botlabenda, Dudi, Muttavashirubenda, Nugubenda, Peddabenda, Tutirichettu, Tutti, Tutturubenda—; *Tulu*: Urki—; *Twi*: Mmofraforowa—; *Urdu*: Kanghi—; *Uriya*: Nakochono—; *Visayan*: Dulupang, Malis, Pilis, Taratacopes, Yampong—.

5. **Abutilon Theophrasti** Medic. (=*A. Avicennae* Gaertn.) occurs in North-Western India, Sind, Kashmir and Bengal. It extends to Arabia, Egypt, the Mediterranean, and South-Eastern Europe. It is naturalized in many parts of Asia, Africa and America.

The leaves, seeds, and roots are put to the same uses as those of *A. indicum*.

In Indo-China a decoction of the seed is given in dysentery, fistulae, and eye sores.

Chinese: Ch'ing Ma—; *English*: American Jute, Indian Mallow—; *French*: Jute de Chine—; *Indo China*: Manh ma—; *Meskwaki*: Menakwusk—.

Althaea.

The genus consists of about 30 species, natives of the temperate regions of the Old World, and rarely found in the tropics.

This genus is well-known for the emollient and resolvent properties of its members.

The following are commonly used medicinally in Europe—*A. cannabina* Linn., *A. hirsuta* Linn., *A. officinalis* Linn., *A. pallida* Waldst. u. Kit., *A. rosea* Cav.—in China and Indo-China—*A. rosea* Cav.—.

1. Stem 15-30 cm. high. Flowers 13-20 mm. diam ... ***A. Ludwigii.***
2. Stem 60-90 cm. Flowers 2.5-5 cm. diam. ... ... *A. officinalis.*
3. Stem often exceeds 1.8 m. in height. Corolla often exceeds 10 cm. across ... ... *A. rosea.*

1. **Althaea Ludwigii** Linn. occurs in Agra, Bundelkhand, the Punjab, Sind, Baluchistan, and the Deccan. It extends to the Mediterranean, and South Africa.

In Wad the plant is used as an aperient, being for the purpose pounded and mixed with sugar and water, and strained.

Arabic: Ketmi, Khutmi—; *Baluchi*: Baharo—; *Brahui*: Utper—; *Kech*: Gwaragpad—; *Kohlu*: Gardaibutai, Girdaebutae—; *Panjgur*: Nampacho, Pochako—; *Wad*: Pachko—; *Waziristan*: Nagamboti—.

2. **Althaea officinalis** Linn. is found in Kashmir. It is distributed over the Mediterranean region and Central Europe as far as Siberia.

The great demulcent and emollient properties of Marsh Mallow make it useful in inflammation and irritation of the alimentary canal, and of the urinary and respiratory organs.

Decoctions of the plant, especially of the root, are very useful where the natural mucus has been abraded from the coats of the intestines. They are excellent in painful complaints of the urinary organs, exerting a relaxing effect upon the passages, as well as acting curatively. They are also effective in curing bruises, sprains or any ache in the muscles or sinews.

The powdered root boiled in milk is useful in haemorrhage from the urinary organs, and in dysentery. The powdered or crushed fresh roots make a good poultice that will remove the most obstinate inflammation and prevent mortification; they have proved more serviceable than the ointment albeit its popular reputation.

Boiled in wine or milk, Marsh Mallow will relieve diseases of the chest, constituting a popular remedy for coughs, bronchitis, whooping-cough, etc., generally in combination with other remedies. It is frequently given in the form of a syrup, which is best adapted to infants and children.

The fresh leaves, steeped in hot water and applied to the affected parts as poultices also reduce inflammation, and bruised and rubbed upon any place stung by wasps or bees take away the pain, inflammation and swelling.

In France, the young tops and tender leaves are added to salads, as stimulating the kidneys healthily.

The flowers, boiled in oil and water, with a little honey and alum, have proved good as a gargle for sore throats.

Arabic: Bazarulkhatme, Khetmia, Kobbeiza, Medja-el-Abiod, Moudjdjir, Ouerd-ez-zoual—; *Berber*: Amejjir, Binesar, Tebencert—; *Bombay*: Gulkhairo, Khaira, Khairakajhor, Khitmi, Khitmikajhor—; *Catalan*: Malvi, Malvins—; *Chinese*: Fou Ioung—; *Cutch*: Gulkhair—; *Danish*: Altaea, Ibisk—; *Deccan*: Gulkhairo, Khaira, Khairakajhor, Khitmikajar—; *Devonshire*: Drunkards, Meshmellish—; *Dutch*: Heemst—; *English*: Bread and Cheese, Bulls-eyes, Marsh Mallow, White Mallow, Wymote—; *French*: Althée, Althée officinale, Guimauve, Mauve blanche—; *Friuli*: Altee—; *Genoa*: Artea, Arteja, Marvaiscu, Marvavestc—; *German*: Adewurzel, Attigkraut, Eibisch, Fliesskrautwurzel, Flusskrautblume, Gilfwurz, Gimorwurzel, Guimauvewurzel, Heiligkraut, Heilwurz, Heilwurzblume, Heinisch, Hemisch, Hemstwurzel, Henest, Hibisch, Hilfskraut, Hilfswurzel, Hustewurzel, Ibisch, Ibischpappel, Ibsche, Ivisch, Kinderbettee, Wilde Malvenwurzel, Weisse Pappel, Sammtpappel, Schleimwurzel, Stockwurzkraut, Weisse Suessholzwurzel, Wollkraut—; *Greek*: Altea, Ibiscos—; *Gujerat*: Gulkhair, Khaira—; *Hindi*: Gulkhairo, Khaira, Khairakajhor, Khitmikajhar—; *Hungarian*: Fejer Malval, Ziliz—; *Italian*: Altea, Avisch, Bismalva, Benefischi, Buonvischio, Davisch, Malvaccioni, Malvavischio, Malvischio, Marvaiscu—; *Languedoc*: Maoula blanca—; *Madagascar*: Fiandrilavenombazaha—; *Malta*: Marsh Mallow, Altea, Malvaccioni—; *Marathi*: Khaira, Gulkhair—; *Norway*: Altaea—; *Persian*: Gulkhairo, Jukhamekhatme, Khaira, Khairakajhor, Khitmi, Khitmikajhar—; *Portuguese*: Malvaisco—; *Reggio*: Bonaves'c—; *Romagna*: Maibon—; *Roumanian*: Nalba mare, Zamosita—; *Russian*: Altei, Dikaya roja, Podswonok, Proskurniak, Prosvirniak—; *Sardinia*: Narbaonia, Pramacisca, Rosa d' Ispagna—; *Somerset*: Bull Flower, Pool Flower—; *Spanish*: Altea, Hierba cañamera, Malvavisco—; *Swedish*: Altea—; *Tamil*: Simaitutti—; *Turkish*: Hatmi—; *Tuscany*: Erba que fa pisciar i buoi, Ibisco—; *Urdu*: Khatme, Khitmi—; *Venice*: Malvaviscio—.

3. **Althaea rosea** Cav., a native of Crete and Greece, is found planted in Indian gardens.

The seeds of this plant are demulcent, diuretic and febrifuge. The flowers have cooling and diuretic properties. The roots are supposed to be astringent and demulcent, and are much used in France to form demulcent drinks.

In the Punjab, the flowers are given in rheumatism, and the root in dysentery (Stewart).

The leaves and roots are also used for the same purposes as those of *A. officinalis*.

Bogotá: Malvarrosa—; *Catalan*: Malva doble, Malva vera—; *Chinese*: Shu K'uei—; *Dutch*: Stokroos—; *English*: Althea Rose, Hock Herb, Hollyhock, Round Dock—; *French*: Alcée, Alcée rose, Althée, Althée rose, Bâton de Saint-Jacques, Bourdon de Saint-Jacques, Guimauve rose-trémière, Mauve arborée, Mauve des jardins, Mauve rose, Passe-rose, Rose alcée, Rose à bâton, Rose de mer, Rose d'outre-mer. Rose papale, Rose trémière, Rose trénière—; *German*: Augenpappel, Baummalve, Baumrose, Brandrose, Braunrose, Erdntrose, Ehrénrose, Felriss, Feuerbluete, Gartenmalve, Glockenpappel, Glockrose, Halsrose, Herbstrose, Herzleuchte, Hochleuchte, Kohlrose, Roemische Malve, Mundrose, Nackrose, Rosenpappel, Schwarzmalve, Siegmarsblume, Stangenrose, Stockmalve, Stockpappelrose, Stock-rose, Ungerblume, Weinrose, Wetterrose, Winterrose—; *Greek*: Altaia, Malachi rodoides—; *Hindi*: Gulkhairu, Gulkhirri—; *Indo-China*: Thuc guy—; *Iraq*: Ward-al-khathmi—; *Italian*: Malvarosa, Malvoni—; *Kurdish*: Gul hailu—; *Malta*: Hollyhock, Malvarosa, Malvoni, Rosoni, Bastun ta San Guisepp—; *Punjabi*: Gul khaira—; *Roumanian*: Nalba de gradina—; *Russian*: Chernaya rosa, Shtok-rosa—; *Spanish*: Malva arborea, Malva Doncella, Malva Isabela, Malva de los jardines, Malva loca, Malva del principe, Malva real, Malva de la reina, Malvarosa—.

Gossypium.

The genus consists of 12 tropical and subtropical species.

The following are used medicinally in the Philippine Islands—*G. arboreum* Linn., *G. barbadense* Linn., *G. herbaceum* Linn., *G. perenne* Linn.—; in Cochinchina and China—*G. herbaceum* Linn.—; in North America—*G. barbadense* Linn., *G. herbaceum* Linn., *G. hirsutum* Linn.—; in Porto Rico—*G. racemosum* Poir.—; in Peru—*G. peruvianum* Cav.—; in Brazil—*G. barbadense* Linn.—; in Guinea—*G. barbadense* Linn., *G. herbaceum* Linn.—; in Guinea—*G. hirsutum* Linn.—.

A. Flowers wholly yellow or yellow with purple base.
Involucral bracts laciniate.
I. Cotton adherent to the seeds.
a. Seeds with underlying down ... ... *G. herbaceum.*
b. Seeds with firmly adherent downy down underlying cotton of the same colour or white ... *G. hirsutum.*
II. Cotton easily seperable from the seeds ... *G. barbadense.*

B. Flowers wholly purple or yellow with purple base.
Involucral bracts subentire or toothed, not laciniate *G. arboreum.*

1. **Gossypium arboreum** Linn. is grown in gardens and about temples.

In Bombay, the root is used in the treatment of fever.

In the Konkan, the root, rubbed to a paste with the juice of patchouli leaves, has a reputation as a promoter of granulation in wounds; and the juice of the leaves, made into a paste with the seeds of *Vernonia anthelmintica*, is applied to eruptions of the

skin following fever. In Pudukota, the leaves ground and mixed with milk, are given for strangury.

The petals squeezed and soaked in human or cow's milk, are used as a soothing and effective application for conjunctivitis of infants.

The cotton is a very useful external remedy in burns, scalds, and some other surgical diseases. The seeds exercise some good influence over gonorrhoea, gleet, chronic cystitis, consumption and some catarrhal affections. The fresh young capsules and shoots have been observed to produce good effects in some cases of dysentery and gonorrhoea. The control of the seeds over gonorrhoea and gleet is more manifest when combined with some other drugs.

In Southern India an emulsion of the seeds is used as an antidote for opium poisoning, and in general for poisoning with narcotics; a decoction of the root is said to be emollient and diuretic.

In Tropical West Africa the leaves, flowers and seeds are used medicinally. A cold infusion of the leaves in water with lime juice has been found to give relief in dysentery. The root is believed to be emmenagogue with an action like that of ergot. As the use of the root to procure abortion is known amongst American negroes, but not in the Orient, the knowledge of this property appears to be indigenous to Africa. The active principle resides in the root-bark. The leaves and crushed seed-kernels are applied to sores or as a poultice to bruises and swellings, and the lint as a dressing to wounds. A paste of the seeds is applied to the forehead and temples for headache.

Barranguilla: Algodón pajarito—; *Bombay*: Deokapas—; *Bundelkhand*: Boojali, Nurma—; *Burma*: Nuwa—; *Canarese*: Anji, Hanji, Kari arale, Karihatti—; *Central Provinces*: Deo, Mannua—; *Dacca*: Borailly—; *Egypt*: Gotn—; *English*: Tree Cotton—; *French*: Cotonnier arborescent—; *Guam*: Algodon—; *Hausa*: Abduga, Auduga—; *Hindi*: Deokapas, Nurma—; *Malayalam*: Chemparutti—; *Marathi*: Devakapusa—; *Mysore*: Deokurpas—; *North-Western Provinces*: Manua, Nurma, Radhia—; *Pondicherry*: Cotonnier—; *Punjab*: Kapas—; *Sanskrit*: Karpasamu—; *Santal*: Bhogakuskom, Budikaskom—; *Sokoto*: Kada—; *Spanish*: Algodonero, Algodonero arboreo—; *Tagalog*: Bulacnabundoc, Bulacnatotoo—; *Tamil*: Sembarutti—; *Telugu*: Patti—; *Visayan*: Bulacngabisaya—; *Yemen*: Odjaz, Oth, Zejt.

2. **Gossypium barbadense** Linn. is cultivated in India.

The seeds, in the form of an emulsion, are given in dysentery and are supposed to be pectoral. They yield by expression an oil which is much used to clear the skin of spots and freckles.

A tea made of the young leaves is recommended in lax habits, and for preparing a vapour bath for the anus in cases of tenesmus.

Arabic: Lekid—; *Betsimisaraka*: Hasina, Landihazo—; *Canarese*: Karihatti, Vilayatihatti—; *Egypt*: Ashmuny, Gotn, Gotn-esh-sheger—; *English*: Sea-island Cotton—; *Gambia*: Dulóboro—; *Guam*: Algodon—; *La Reunion*: Gros coton—; *Malayalam*: Chemparutti—; *Philippines*: Bulac Fernambuco, Bulac Pernambuco, Canton, Pernambuco—; *Sanskrit*: Maghani, Purvam—; *Tamil*: Arattam, Mayiliyam, Sembanja, Sembarutti, Simaipparutti—; *Tahiti*: Vavai—; *Telugu*: Ettappatti, Paidipatti, Pamidipatti—; *Uriya*: Rongokopa—; *Uruguay*: Algodonero—.

3. **Gossypium herbaceum** Linn., probably indigenous in Northern Arabia and Asia Minor, is found cultivated in the North-Western

Frontier Province and Baluchistan. It is also met with in Afghanistan, Persia, Mesopotamia, Syria, Egypt, the Mediterranean region, and the United States of America.

A hip bath of the young leaves and roots is recommended in uterine colic. The Tamil doctors prescribe a decoction of the root in strangury and gravel.

The juice of the leaves is considered a good remedy in dysentery, and the leaves with oil are applied as a plaster to gouty joints.

A syrup of the flowers is prescribed in cases of morbid depression on account of its stimulating and exhilarant effect; a poultice of them is applied to burns and scalds.

The seeds are used as a laxative, expectorant, and aphrodisiac. Pounded cotton seed, mixed with ginger and water, is applied in orchitis.

Cotton is used as a moxa. Burnt cotton is applied to sores and wounds to promote healthy granulation.

In Cambodia every part of the plant is used medicinally. The whole plant is considered febrifuge; the flowers and leaves are said to be pectoral and sudorific.

In Annam the flowers are given in amenorrhoea and dysmenorrhoea; the oil from the seeds is applied to wounds, and used in scabies and herpes.

In North America the root bark is used in large doses as an abortifacient. The seeds are considered antidysenteric and galactagogue. The juice of the leaves is administered as an emollient in diarrhoea and in mild forms of dysentery.

In South America cotton-seeds in the form of decoction are employed in the treatment of intermittent fevers.

In India the juice of the fresh leaves is considered very efficacious in the treatment of snake-bite, and the root and leaves are recommended for the treatment of scorpion-sting. But Caius and Mhaskar have shown experimentally that the leaves are not an antidote to snake venom, and that neither the root nor the leaves have any effect in the symptomatic treatment of scorpion-sting.

Annam: Bong se, Bong tau, Cat boi, Cay bong, Cay bong lam vai, Cay vai bong, Thao Khoang—; *Arabic*: Fitan, Kotonefezzani, Kurtamussul—; *Bengal*: Kapas, Tula—; *Bombay*: Kapas, Rui—; *Bulandshahr*: Binaula—; *Burma*: Wa, Wah—; *Cambodia*: Krabas—; *Canarese*: Ambara, Arale, Arali, Badari, Dudi, Hatti, Karibarivale, Karpasa, Tula—; *Central Provinces*: Kapas—; *Deccan*: Kapas—; *Egypt*: Gotn, Gotn-el-sadjar—; *English*: Common Cotton, Indian Cotton—; *French*: Cotonnier, Cotonnier herbacé, Cotonnier de Malte—; *Greek*: Bombaki—; *Gujerati*: Kapas, Ru—; *Hindi*: Deokapas, Kupas, Narma, Rui—; *Indo-China*: Bong, Fai, Krabas, Mien hoa, Thao mien—; *Iraq*: Outn'-iraqi—; *Konkani*: Kapsini, Kapus—; *Malavalam*: Badara, Karppas, Karppasi, Karuparutti, Kuruparatti, Pangni, Paritti, Parutti, Pishu, Tulam, Tundikeri—; *Malta*: Common Cotton, Indian Cotton, Short stapled Cotton, Cotone, Koton Malti, Koton ta Malta—; *Marathi*: Kapus, Ru—; *Mundari*: Kadsom, Kaksom, Karsom, Kaskom, Kasom, Katsom—; *Pampangan*: Balac Castila—; *Persian*: Pambah—; *Portuguese*: Algoda, Algodoeiro—; *Punjab*: Broach Kapa, Rui—; *Rajputana*: Kapas—; *Roumanian*: Bumbac—; *Russian*: Khlopchatnik—; *Sakalave*: Tsiahilika—; *Sanskrit*: Anagnika, Badara, Chavya, Chhadana, Guda, Kalakanta, Karpasasarini, Karpasi, Maghani, Marudbhava, Patada, Patahena, Pichu, Samudranta, Sutrapushpa, Tula, Tundakerika, Tundikeri, Vadara—; *Sind*: Vaum—; *Sinhalese*: Kapus—; *Spanish*: Algodonero—; *Tagalog*: Bulac, Bulag—; *Tamil*: Iladambarutti, Karbasam, Karppasam, Panji, Pari, Parutti, Samuttrandam, Taiparutti, Tulam, Tulavam, Uppambarutti, Uttiri, Vanap-

parutti—; *Telugu*: Badari, Badarika, Edudi, Karpasamu, Patti, Pinja, Pishulamu, Pishuvu, Pratti—; *Tuareg*: Tabdouk—; *Tulu*: Parti—; *Uraon*: Rabji—; *Uriya*: Karpaso, Kopa, Korpaso—; *Urdu*: Rui—; *Visayan*: Cadaba, Candaba, Gapas—.

4. **Gossypium hirsutum** Linn. is found cultivated in India.

In Guinea the seeds and the leaves are considered emollient, the roots emmenagogue.

Fulani: Hotollo—; *Malinke*: Koroni—; *Malta*: Koton ta Gallipoli—; *Punjabi*: Safed narma—; *Sinaloa*: Algodon—; *Soussou*: Guessefonte—; *Zambesi*: Tonje-manga—.

Hibiscus.

The genus numbers 160 tropical and subtropical species.

The roots are much used as demulcent. The seeds are considered stimulant and antispasmodic.

The following are used medicinally in Europe—*H. esculentus* Linn., *H. rosa-sinensis* Linn., *H. syriacus* Linn., *H. Trionum* Linn.—; in Egypt—*H. Abelmoschus* Linn., *H. syriacus* Linn.—; in Tropical West Africa—*H. Abelmoschus* Linn., *H. asper* Hook. f., *H. cannabinus* Linn., *H. esculentus* Linn., *H. rostellatus* Guill & Perr., *H. Sabdariffa* Linn., *H. tiliaceus* Linn., *H. vitifolius* Linn.—; in South Africa—*H. aethiopicus* Linn., *H. leiospermus* Haw., *H. malacospermus* E. Mey., *H. pusillus* Thunb., *H. Trionum* Linn., *H. surattensis* Linn.—; in East Africa—*H. Sabdariffa* Linn.—; in La Reunion—*H. esculentus* Linn., *H. liliiflorus* Cav., *H. rosa-sinensis* Linn., *H. Sabdariffa* Linn.—; in Madagascar—*H. diversifolius* Jacq., *H. phanerandrus* Baker, *H. tiliaceus* Linn.—; in Mauritius—*H. esculentus* Linn., *H. liliiflorus* Cav., *H. mutabilis* Linn., *H. rosa-sinensis* Linn., *H. tiliaceus* Linn.—; in the Philippine Islands—*H. Abelmoschus* Linn., *H. grewiaefolius* Hassk., *H. Lampas* Cav., *H. mutabilis* Linn., *H. rosa-sinensis* Linn., *H. surattensis* Linn., *H. tiliaceus* Linn.—; in Malaya—*H. mutabilis* Linn., *H. rosa-sinensis* Linn., *H. syriacus* Linn., *H. tiliaceus* Linn., *H. Trionum* Linn.—; in Indo-China—*H. Abelmoschus* Linn., *H. Manihot* Linn., *H. mutabilis* Linn., *H. rosa-sinensis* Linn., *H. syriacus* Linn., *H. tiliaceus* Linn., *H. Trionum* Linn.—; in China—*H. Manihot* Linn., *H. mutabilis* Linn., *H. rosa-sinensis* Linn., *H. syriacus* Linn.—; in the West Indies and South America—*H. Abelmoschus* Linn.—; in Guiana—*H. Abelmoschus* Linn., *H. digitiformis* DC., *H. esculentus* Linn., *H. mutabilis* Linn., *H. Sabdariffa* Linn., *H. tiliaceus* Linn.—; in Tahiti—*H. rosa-sinensis* Linn.—; in North America—*H. californicus* Kell., *H. esculentus* Linn., *H. rosa-sinensis* Linn.

A. Style distinctly lobed. Involucre not caducous.

Calyx terminated by 5 distinct lobes. Capsule woody, dehiscent, many-seeded ... ... *H. Lampas.*

B. Capsule 5-celled

I. Calyx membranous, inflated ... ... *H. Trionum.*

II. Calyx not inflated

a. Involucral bracts distinct, 8-12, forked or provided with a leafy appendage

1. Stipules semicordate, auricled ... ... *H. surattensis,*
2. Stipules lanceolate ... ... *H. furcatus.*

b. Involucral bracts without appendages. Seeds cottony.
Leaves broad, ovate, not lobed ... ... *H. micranthus.*

c. Involucral bracts without appendages, sometimes adnate to the calyx-tube. Seeds smooth or hairy, not cottony.
1. Capsule 5-winged. Seeds tubercled ... ... *H. vitifolius.*
2. Capsule not winged. Seeds nearly glabrous or smooth.
α. Sepals with a gland at the back of each ... *H. cannabinus.*
β. Sepals not glandular ... ... *H. diversifolius.*

d. Involucral bracts adnate to the calyx-tube, accrescent, thick, fleshy, purple ... ... *H. Sabdariffa.*

e. Involucral bracts 4, distinct ... ... *H. Manihot.*

f. Involucral bracts more than 5, linear.
1. Involucral bracts shorter than the calyx ... *H. Abelmoschus.*
2. Involucral bracts equalling the calyx ... *H. esculentus.*

C. Capsule with false dissepiments, spuriously 10-celled.
Involucral bracts connate at the base. A tree ... *H. tiliaceus.*

D. Cultivated species.

I. Corolla 7.5 cm. diam. red ... ... *H. rosa-sinensis.*

II. Corolla 7.5-10 cm. diam. white or pink ... ... *H. mutabilis.*

1. **Hibiscus Abelmoschus** Linn. is found in cultivation throughout the hotter parts of India. It is met with in most other tropical countries.

Ayurveda and Yunani practitioners recognize the seeds as cold, dry, tonic and stomachic. The latter recommend a mucilage made from the root and leaves in gonorrhoea.

The natives of Western Africa use the leaves as an emollient in inflammations of the eyes, and the pounded seeds as a stomachic and digestive tonic.

Antsianaka: Sondraranjaza—; *Arabic*: Habb-ul-mishk, Habb-ul-mushk—; *Bambura*: Suma-diala—; *Bengal*: Mushakdana—; *Betsimisaraka*: Mana—; *Bombay*: Mishkdana, Mushkdana—; *Brazil*: Guicombo, Guigombo do cheiro—; *Burma*: Baluwa—; *Canarese*: Kasturibende—; *Ceylon*: Vattilaikasturi—; *Colombia*: Abelmosco, Almizclillo, Majaguito de playa—; *Deccan*: Kasturibenda, Kasturubenda, Mushkbenda—; *English*: Musk Mallow—; *French*: Abelmosc, Ambrette, Gombo musqué, Graine de musc, Guimauve veloutée, Ketnie odorante—; *French Guiana*: Ambrette, Calalou musqué—; *German*: Ambre, Ambrette, Bisorn—; *Gold Coast*: Osamankroma, Saman nkuruma—; *Gujerati*: Mushakdana—; *Hindi*: Kalakasturi, Mushkaana—; *Indo-China*: Bong trang nui, Bong vang, Nhan sam, Vong vang—; *Italian*: Ambretta—; *Malay*: Kapas hantu, Kapas hutan—; *Malayalam*: Kasturiventa, Kattukasturi—; *Marathi*: Kasturibhenda—; *Mende*: Feo-bonde, Grabondo, Musukui—; *New Caledonia*: Adlivigona-gahako—; *Pampangan*: Castocastolian—; *Persian*: Mushkdana—; *Roumanian*: Pesma—; *Russian*: Dushishtayan ketmia, Mukushnaya trava—; *Sakalave*: Tsindraranjaza—; *Sanskrit*: Latakasturika—; *Sinhalese*: Kapukimissa, Kapuyinessa—; *Southern Nigeria*: Okolooin-yelogolo—; *Spanish*: Abelmosco, Ambarina—; *Susu*: Baminkame, Soumari—; *Tagalog*: Castio, Castiocastiogan, Sastiogan, Castoli, Castuli, Dalupan, Putucan—; *Tamil*: Kasturivendia, Kattukasturi—; *Telugu*: Karpurabenda, Kasturibenda, Nelabenda—; *Tukulor*: Kundialana—; *Urdu*: Mushkadanah—; *Visayan*: Ducum, Marapoto, Maricum, Maropoto, Marucum—.

2. **Hibiscus cannabinus** Linn. is generally cultivated in most tropical countries.

The seeds are used as an external application to pains and bruises, and are said to be aphrodisiac and fattening.

One tola of the juice of the flowers, with sugar and black pepper is a popular remedy for biliousness with acidity.

The leaves are purgative. In Northern Nigeria they are powdered and used as a local application for Guinea-worm sores.

Arabic: Til—; *Australia*: Okra, Surm--; *Bakundu*: Belokaloke—; *Balondo*: Bolokoloko—; *Bambara*: Da dian, Da fou, Da ian, Da wulu—; *Basari*: Inangaé—; *Basrah*: Gunnab—; *Bauchi*: Jirin da rani—; *Behar*: Kudrum—; *Bengal*: Ambari, Chandana, Mestapat, Nalita, Nalki, Patsan, Pulu, Pulua—; *Bombay*: Ambari—; *Bozo*: Fo—; *Canarese*: Holadapundrike, Pundi—; *Central Provinces*: Ambari—; *Chanda*: Ambari—; *Chota Nagpur*: Kudrum—; *Dagomba*: Balaga—; *Delhi*: Tukhmibhang—; *Djenne*: Bargin—; *Egypt*: Til, Tylbeledy—; *English*: Ambari Hemp, Ambasi Hemp, Bastard Jute, Bimlipatam Jute, Bombay Hemp, Deccan Hemp, Hemp Bendy, Hemp-leaved Hibiscus, Indian Hemp—; *Ewe*: Abema, Egbepetri—; *French*: Chanvre de Guinée—; *Fulani*: Follere pa'bi, Baji, Gabai, Polle, Polli—; *Gambia*: Wild Saur—; *Gbari*: Sawung—; *Godavari*: Gavnara—; *Guierati*: Bhindiyamboi, Sheria—; *Hausa*: Farar rama, Jar rama, Rama—; *Hindi*: Ambari, Kudrung, Mestapat, Nalita, Nalki, Patsan, Pulu, Pulua, San, Sankarkra, Sankukra—; *Ibo*: Odu agu, Udo ocha—; *Iraq*: Jilijil—; *Jhelum*: Shan—; *Jukun*: Azhi—; *Kano*: Dirin da rani—; *Kanuri*: Ngabbai—; *Katsina*: Karamapnowa, Koka rani—; *Kolami*: Ji, Kotle—; *Konkomba*: Ditoanje, Ditotone—; *Kratchi*: Niaripari, Riaripari—; *La Reunion*: Chanvre de Gombo—; *Malayalam*: Kanjaru—; *Malinke*: Da le—; *Mandingo*: Da julo, Da sitto—; *Marathi*: Ambada, Ambadi, Khadbind, Khar bhendi—; *Martinique*: Chanvre de Gombo, Gombo—; *Mbonge*: Belokaloka—; *Mundari*: Kotole, Kotoleara, Kotoleipilara—; *North-Western Provinces*: Patsan, Pitrva, Rattiasan—; *Persian*: Kanabe, Kanaff, Kanaspe, Sujjado—; *Punjab*: Patsan, Sankokla, Sankokra, Sankukri, Sinjubara—; *Rajbutana*: Ambari—; *Sanskrit*: Amla, Ambalika, Ambashtha, Ambika, Balika, Bhurimalli,Chhinnapatri, Chitrapushpi, Dridhvalka, Gandhapatri, Garnikura, Keshi, Machika, Marvurika, Mayurvidala, Mukhavachika, Nali, Phalamla, Prashthika, Rajjudambashtha, Sahasravatamulika, Shathamba, Shrevasi—; *Santal*: Darekudrum, Kudrung—; *Sind*: Sujjado—; *Sokoto*: Kare aiki, Karama mowa—; *Songhai*: Koro guisouma—; *South Africa*: Wild Stock Rose—; *Susu*: Forto bamingui—; *Tamil*: Kachurai, Palungu, Pulichai, Pulicharkirai, Pulimaniai—; *Telugu*: Gogu, Gongura, Gonkura, Gulungu, Pundikura—; *Tschaudjo*: Rama—; *Tukulor*: Pollenggagina—; *Twi*: Ishoho, Ishoho vesen—; *Uran*: Kudrundora, Tape—; *Uriya*: Bhanga, Kanuriva, Kornniya—; *Wolof*: Pondori—; *Yoruba*: Ida orisha, Oja ikoko, Yemoro, Yewuru—.

3. **Hibiscus diversifolius** Jacq. occurs in Burma. It is distributed over tropical Africa and Australia.

Every part of the plant is used as an emollient in Madagascar.

The native physicians of Fiji use the juice of the leaves to procure abortion.

Betsileo: Tsotsona—; *Imerina*: Roibevavy—; *Madagascar*: Roibe—; *North Queensland*: Cooreenyan—.

4. **Hibiscus esculentus** Linn. is found cultivated throughout India and in all tropical countries.

The plant is a household medicine, and highly esteemed by both Hindu and Mahommedan practitioners as an emollient and demulcent.

The leaves are used to form emollient poultices.

The mucilage from the fruits and seeds is useful in gonorrhoea and irritation of genito-urinary system.

The immature capsules are employed in the form of a decoction as an emollient, demulcent, and diuretic in catarrhal affections, ardor urinae, dysuria, and gonorrhoea.

In Guinea the fruit and the leaves are used as emollient. In some parts of West Africa mild aphrodisiac properties are attributed to the seeds.

In Guiana the plant is very much used as a cooling mucilage; every part of the plant is considered emollient and employed as such; the fruit boiled in milk is given for cough.

Arabic: Baeledi, Bamir, Bamiya, Guenaouia, Uaeki—; *Ashanti*: Nkuruma—; *Bafo*: Ndando—; *Bakossi*: Ndando—; *Bakundu*: Mabune—; *Bakwiri*: Ndando—; *Balondo*: Mawuni—; *Balong*: Ndando—; *Bambara*: Gan, Guan, Guaniala—; *Banda*: M'Veke—; *Basari*: Imo—; *Batanga*: Mabune—; *Bengal*: Dhenras, Dhenrus, Dheras, Ramtorai—; *Benin*: Ikhiavbo—; *Bombay*: Bhenda, Chendi—; *Bota*: Ndando—; *Brazil*: Guiabo, Guimgombo—; *Burma*: Younpadisi—; *Canarese*: Bendakainaru, Bendekāi, Bhende—; *Central Porvinces*: Bhendi—; *Ceylon*: Bandakkai—; *Cuba*: Quimbombo—; *Dagomba*: Mana, Manvale—; *Deccan*: Bhendi—; *Efik*: Etighi—; *Egypt*: Bamia, Belledi, Ueki—; *English*: Edible Hibiscus, Gobba, Gumbo, Lady's Fingers, Ochro, Okra—; *Ewe*: Fetri—; *Fanti*: Nkuruma—; *Fra-Fra*: Marna—; *French*: Bamia, Gombault, Gombeau, Gombo, Ketmie comestible, Mauve comestible, Okra—; *French Guiana*: Calalou, Calou—; *Fufulde*: Baskoje, Takkei—; *Fulani*: Candie, Takaere, Takeyi, Taku—; *Ga*: Engmomi—; *Gbari*: Okmi—; *Gujerati*: Bhinda, Bhindu, Binda—; Gurunshi: Paula—; *Hausa*: Guro, Ku 'baiwa, Ku 'bewa, Yau 'di—; *Hindi*: Bhendi, Bhindi, Bindi, Katavandai, Ramturai, Ranturi—; *Ibibio*: Etikhe—; *Ibo*: Okolo, Okuro, Okworo, Okwulu, Okwuru—; *Iraq*: Bamia—; *Kabura*: Mana—; *Kanuri*: Gebalgo, Gobasko, Gubaltu, Njita kimé—; *Kissi*: Gbasa—; *Kolami*: Mindijinga—; *Konkani*: Bendo—; *Konkomba*: Emoi—; *Konno*: Bondoi, Gbondui—; *Koranko*: Bonde—; *Krepi*: Alokoe, Atise, Bodro, Mesedi—; *Krobo*: Muomi, Pingpesi, Pui—; *La Reunion*: Lalo—; *Lepcha*: Hryok kun-tsu—; *Louisiana*: Gobbo, Gumbo—; *Losso*: Mana, Meni—; *Malayalam*: Vanta—; *Malinka*: Gavu, Gau, Guan—; *Mandingo*: Kainjo, Kanjo, Nah—; *Manjia*: Gona, M'Beyi, Yoga—; *Mano*: 'Zambe—; *Marathi*: Bhenda, Bhendi—; *Mauritius*: Bhindi, Lalo, Ramtouraye, Vendekaye—; *Mbonge*: Mabuna—; *Mende*: Bonde, Bondebondogbamai, Bonde nande, Bonde valiangoi, Bondo—; *Mexico*: Chinbombo, Gombo, Quingombo—; *Mundari*: Mindidiring, Ramjhingga—; *Nupe*: Kpamfine, Kpanmi—; *Panama*: Naju—; *Peking*: Yang Chiao T'ou—; *Persian*: Bamiyah—; *Porto Rico*: Guingambo—; *Portuguese*: Ouiabo—; *Portuguese Guinea*: Quingombo—; *Punjab*: Bhindatori, Bhindi, Bhinditori, Ramturai—; *Sanskrit*: Asrapatraka, Bhenda, Bhinda, Bhindatika, Chatupunda, Chatushpada, Darivka, Gandhamula, Karaparna, Kshatrasambhava, Pichchila, Sushaka, Tindisa, Vrittabija—; *Santal*: Ramjinga—; *Sarracole*: Diakatame—; *Shanghai*: Yang Koh Deu—; *Serere*: Kandia—; *Sherbro*: Lonto-le—; *Shuwa Arabic*: Bamiya, Daraba gabesco, Daraba umm gurun—; *Sind*: Bhendi, Ramturai—; *Sinhalese*: Bandakai, Bandakka, Okra—; *Sobo*: Ishavbo—; *Sokoto*: Guro—; *Songhai*: Gombo, Karas, Lahoil—; *Spanish*: Guimbombo—; *Susu*: Sulegni, Sulinyi, Sulunyi—; *Tamil*: Vendai, Vendi—; *Telugu*: Benda, Penda, Venda—; *Timne*: A-lontho, E-lunto—; *Tivi*: Ityulugh—; *Tschaudjo*: Gmana—; *Twi*: Nkuruma—; *Vai*: Gbongbong—; *West Africa*: Bendi kai, Ochro, Okra—; *West Indies*: Bendi kai, Common Okra, Gombeau, Gombo, Guiabo, Long Green Okra, Ochro, Okra—; *Wolof*: Kandia—; *Yemen*: Bamia—; *Yoruba*: Ila, Ilasa, Ilasado, Ilasha—.

5. **Hibiscus furcatus** Roxb. occurs in the hotter parts of India and Ceylon. It is distributed over the tropics of the Old World.

An infusion of the roots in water is a good cooling drink for the hot weather.

Canarese: Huligowri—; *Malayalam*: Naranampuli, Pachapuli, Suriyamani—; *Sinhalese*: Hinnapiritta, Napiritta—; *Telugu*: Kondagogu, Kondagongura—; *Uriya*: Piripirika—.

6. **Hibiscus Lampas** Cav. occurs in the Himalaya up to 4,000 feet Bengal, Burma, Konkan, Kanara, the Western Ghats up to 3,000 feet,

the Northern Circars, Deccan and Ceylon. It extends to Java and Eastern tropical Africa.

The root and fruit are used in Chota Nagpur as a remedy in gonorrhoea and syphilis.

Assam : Bonkapash—; *Bengal* : Bankapas, Bankapsi, Bankapus—; *Canarese* : Adavibende, Turuve—; *Central Provinces* : Jangli bhendi—; *Dehra Dun* : Ban kapasi—; *Gujerati* : Paruspiplo—; *Hindi* : Bankapas, Bankapasi, Kakhi, Kasyapal—; *Ho* : Reke—; *Kolami* : Birkatsom—; *Lepcha* : Ka-fal-muk—; *Malayalam* : Daraba, Kattuparatti—; *Marathi* : Janglibhenda, Ranbhendy—; *Matheran* : Lahanbhendi, Ranbhendi—; *Mundari* : Birkadsom, Birkaksom, Birkarsom, Birkaskom, Birkasom, Birkatsom—; *Pangasinan* : Banaro—; *Porebunder* : Adbauporushpiplo, Jangliparushpiplo—; *Rannagar* : Bankapasi—; *Santal* : Birkatsom, Bonkapsi—; *Tagalog* : Banagapula, Bannago—; *Telugu* : Adavibende, Adavipratti, Bharadvaji, Kondapatti, Pagadipatti, Pattinga—; *Uriya* : Bonokopa—; *Visayan* : Bannago, Bulacan—.

7. **Hibiscus Manihot** Linn. is found in Bengal, Mount Abu, Gujerat, Konkan, the Western Ghats, and along the West Coast from South Kanara to Travancore.

In Indo-China the bark is considered emmenagogue. It is used in the form of mucilage.

Chinese : Huang Shu K'uei, Shu Kuei—; *Ga* : Laga laga—; *Indo-China* : Hoang thuc quy—.

8. **Hibiscus micranthus** Linn. f. is found in the hotter parts of India from North-Western India eastwards and southwards to Ceylon. It spreads to Arabia and tropical Africa.

The plant is considered a valuable febrifuge in Ceylon.

Acrur : Ligat atolo, Rigaget elo—; *Asmara* : Chercurantel—; *Baluchi* : Zwangir—; *Ceylon* : Perumaddi—; *Cutch* : Darianujhad, Kurudwel—; *Ga* : Lagalaga—; *Gujerati* : Chanakbhindo—; *Mensa* : Konatal—; *Porebunder* : Abaubuporio, Darianujhad—; *Tamil* : Sittamutti—; *Telugu* : Chalabharata, Tuturubenda—.

9. **Hibiscus mutabilis** Linn., indigenous in China, is cultivated in India.

In Malaya and China the flowers are an established remedy for pectoral and pulmonary complaints; they are prescribed as a stimulant. The leaves are applied to swellings.

In Guiana the plant is used as an emollient.

America : Confederate Rose, Cotton Rose—; *Bengal* : Sphalpadma, Thulpadma—; *Canarese* : Nelaolavare, Suryakanti—; *Chinese* : Fu Jung, Mu Fu Jung—; *Coloubia* : Amistad del día, Rosa de engaño, Variedad—; *English* : Changeable Rose—; *French Guiana* : Caractère des dames, Rose changeante—; *Guam* : Mapola—; *Hindi* : Gul-i-ajaib, Shalapara, Sthalkamal—; *Indo-China* : Moc phu dung, Phu dung—; *La Reunion* : Passe-rose—; *Malaya* : Foo yoon—; *Malayalam* : Chinapparatti, Hinaparutti—; *Mauritius* : Passe rose, Satoula padma—; *Mexico* : Amistad—; *Philippines* : Mapola—; *Porto Rico* : Maravilla—; *Portuguese* : Amor inconstante, Rosa mudavel—; *Punjab* : Gul i ajaib—; *Sanskrit* : Padmacharini, Sthalpadma—; *Tamil* : Irattaivellaichembarattam, Sembarattai—; *Uriya* : Sthalopidmo, Tholopodmo—; *Uruguay* : Farolito japonés, Flor de la vida, Rosa de mayo—.

10. **Hibiscus rosa-sinensis** Linn. is found cultivated in gardens throughout India.

The flowers are considered emollient, and an infusion of the petals is given as a demulcent. Fried in ghee they are administered for checking excessive menstruation. In La Reunion they are reputed to be emmenagogue.

The flowers are a household remedy in the Philippine Islands. Externally they are used in all kinds of inflammation; internally they are prescribed in the form of decoction in bronchial catarrh as a bechic and sudorific.

The root is mucilaginous and demulcent, valuable in coughs. In the Konkan the powdered root is used in menorrhagia, and the juice of the fresh root is given for gonorrhoea.

The bark is said to act as an emmenagogue.

The leaves are emollient and aperient. In China they are used in paralysis and dysmenorrhea.

Arabic: Angara-e-hindi—; *Bengal*: Jaba, Japa, Jiwa, Joba, Juwa, Oru, Patkili—; *Bombay*: Jasavanda—; *Burma*: Kaungyan, Koungyan—; *Canarese*: Dasanihu, Dasavala, Dasavana, Kempupundrika, Nadeya—; *Cantonese*: Ch 'uen Kan—; *Chinese*: Ch 'uan Chin, Fu Sang, Houng Hoa—; *Colombia*: Alsaciana, Astromelia, Cayena, Escandalosa, Isleña, Resucitado, Roja—; *Deccan*: Gudel, Jasum, Jasum, Jasut, Kudhal—; *English*: Scarlet Rose-mallow, Shoe Flower—; *French*: Ketmie, de Cochinchine, Rose de Chine—; *Guam*: Gumamela—; *Gujerati*: Jasuva—; *Hindi*: Jasum, Jasun, Jasut—; *Ilocano*: Cayanga—; *Indo-China*: Dam but, Dok mai, Hong can, Phu tang—; *Konkani*: Doxini—; *Malaya*: Choon kin—; *Malayalam*: Ayamparutti, Jampa, Japa, Shemparatti—; *Marathi*: Desindachaphula, Jasavanda, Jasavandi—; *Mauritius*: Djassoun, Foulsapate, Sapatoucheddi—; *Nasirabad*: Badshapashand—; *North America*: China Rose, Chinese Hibiscus, Chinese Rose—; *Pampangan*: Cayanga, Gomamila, Tapolanga, Tapuranga, Tarocanga—; *Persian*: Angara-e-hindi—; *Philippines*: Cayaga, Gumamela, Tapulanga, Tapuranga—; *Portuguese*: Flor de sapato—; *Rarotonga*: Kaute—; *Samoa*: Aute—; *Sanskrit*: Arkapriya, Aruna, Harivallabha, Japapushpa, Java, Joba, Odhrapushpa, Ondrakhya, Pratiko, Raktapushpi, Rogapushpi, Rudrapushpa, Trisandhya—; *Sinhalese*: Sapatthumal, Wadamal—; *Spanish*: Rosa de China—; *Tagalog*: Antolangan, Aroganan, Cayanga, Gomamila, Tapolanga, Tarocanga—; *Tamil*: Arattam, Irattai-chegappuchembarattam, Irattaimanjajembarattam, Mandaram, Sapattuppu, Sembarattai, Sevarattai, Sivandavesai—; *Telugu*: Dasanamu, Dasani, Japa-pushpamu—; *Tulu*: Dasanapu—; *Uriya*: Mondaro, Odophulo, Onghribollika—; *Uruguay*: Flor de obispo, Rosa de China—; *Visayan*: Antolangan, Aroganam, Cayanga, Gomamila, Tapolanga, Tapuranga, Tarocanga—.

11. **Hibiscus Sabdariffa** Linn. is generally cultivated in the hotter parts of India and Ceylon. It is distributed through the tropics of the Old World.

The leaves are emollient. They are much used in Guinea as a diuretic, sedative, and refrigerant.

The leaves, seeds, and ripe calyces possess diuretic and anti-scorbutic properties.

The succulent calyx, after the flower fades, is used for the preparation of jelly, chutney, curries, etc.; also as a refreshing drink or made into a wine or syrup. In bilious conditions, a diet drink is prepared by boiling it with water and adding a little salt, pepper, asafoetida and molasses.

East of Chad an infusion of the calyces, "Sudan Tea", is taken to relieve symptoms of plethora, for bronchitis and cough, and is also used as a vehicle for various native medicines. Externally the leaves, flamed to cause the sap to exude, are applied to assist the healing of sand-cracks of the feet, and a lotion is used for sores.

In Hausa the oil from the seeds is used as a substitute for castor oil and applied to camel sores.

Antsianaka: Voamahombazaha—; *Arabic*: Karkade, Karkangi—; *Basari*: Injangbam—; *Bengal*: Lalmista, Mesta, Patwa—; *Bombay*: Lalambari, Patwa—; *Burma*: Chinbaung, Chinpoungni—; *Canarese*: Kempupundrike, Pulachakiri, Pundibija—; *Ceylon*: Pulinchakira—; *Dagomba*: Dibemre, Digbemre—; *Deccan*: Lalambari, Patwa—; *Egypt*: Kerkadeb—; *English*: Indian Sorrel, Jamaica Sorrel, Red Sorrel, Rosella, Rozelle, Rozelle Hemp—; *Ewe*: Abema—; *Fra-Fra*: Bito—; *French Guiana*: Oseille-de-Guinée rouge—; *Fufulde*: Fulle—; *Fulani*: Follere, Follere ba'di, Follere boleyo, Hologo, Hoyoro—; *Ga*: Sakpa—; *Gbari*: Amma—; *Guinea*: Oseille de Guinée—; *Gujerati*: Lālsheria—; *Gurunshi*: Nangana—; *Hausa*: Sure, Yakuwa—; *Hindi*: Lalambari, Patwa—; *Ho*: Arhaipila—; *Honduras*: Sorrel—; *Hova*: Divay—; *Ibo*: Ojo, Okworo-ozo—; *Konkomba*: Tingyanbam—; *Konno*: Sandoi—; *Kratchi*: Riaripari—; *La Reunion*: Groseille—; *Limba*: Bu-santor—; *Malayalam*: Polechi—; *Malinke*: Da—; *Mandingo*: Kucha—; *Marathi*: Lāl ambādi, Patva, Tāmbādi ambādi—; *Mende*: Satoi, Satui—; *Mundari*: Arharjorjora, Jengaipillara, Jojoara, Telengaipilara—; *Nupe*: Emagi—; *Portuguese*: Rosela—; *Santal*: Arakkudrum, Togotarak—; *Sierra Leone*: Crincrin, Sour-sour—; *Sind*: Lalambari—; *Sinhalese*: Ratabilincha—; *Sokoto*: Sure—; *Susu*: Santon-belli, Santui—; *Tamil*: Simaikkasuru, Sivappukkasuru—; *Telugu*: Ettagomgura, Ettagongaka, Ettagonguru, Shimogonguru—; *Timne*: A-santor, Ka-santor, Koe-santoor—, *Tivi*: Aishwe, Ashwe—; *Tschaudjo*: Dibemre, Digbemre—; *Uran*: Kudrung—; *West Indies*: Red Sorrel, Rozelle—; *Wolof*: Bissab—; *Yoruba*: Amukai, Isepa—.

12. **Hibiscus surattensis** Linn. occurs in the hotter parts of India, from Bengal to Penang, and Ceylon. It extends to tropical Asia, Africa, and Australia.

The mucilaginous flowers are much used as an emollient and pectoral in La Reunion.

The Zulus use a lotion of the leaves and stem for the treatment of penile irritation of any sort, including venereal sores and urethritis. It is sometimes applied as an ointment for the same purposes. An infusion is also used as an injection into the urethra and vagina for gonorrhoea and other inflammations.

Benin: Akenye—; *Betsimisaraka*: Sirangabalala—; *Bombay*: Ranbhendy—; *Burma*: Welmachinpoung—; *Ibo*: Ile ago—; *Lagos*: Wongo—; *La Reunion*: Oseille malabare—; *Malay*: Asam susor—; *Mende*: Koli-nei—; *Popo*: Pode—; *Sinhalese*: Hinnapiritta, Naapiritta—; *Tamil*: Kashlikirai—; *Telugu*: Mulugogu—; *Timne*: Da-mirakanka, Damirasip, Ramirasip—; *Visayan*: Labog—; *Yoruba*: Awon-ekun, Wonjo—; *Zulu*: inCathucathu—.

13. **Hibiscus tiliaceus** Linn. occurs in all tropical regions, especially near the coast. It is particularly plentiful in the Sundarbans, and on the river banks in Burma.

The root is said to be febrifuge, and employed in the preparation of embrocations (Irvine).

The bark yields a dark hairy fibre which is used as an absorbent in Malaya.

In the Philippines the powdered bark is given as an emetic; an infusion of the leaves is employed to wash ulcers and wounds; the flowers, boiled in milk, are used in the treatment of earache.

In Gold Coast the yellow juice from the young fruits is rubbed on the skin to cure weakness.

In Indo-China the leaves are considered laxative and resolvent.

In Madagascar the plant is used as an emollient.

Australia: Cotton Tree, Talwalpin—; *Bengal*: Bala, Bhola, Bola, Chelwa—; *Betsimisaraka*: Baro—; *Bombay*: Bellipata—; *Burma*: Thengben, Thinban—; *English*: Corkwood, Lime-tree-leaved Hibiscus—; *Fiji*: Fau—; *French*: Bois de hot, Bois de liege, Grand Mahot, Varo—; *French Guiana*: Grand Mahe, Maho—; *Ga*: Fef—; *Guam*: Pago—; *Hawaii*: Hau—; *Hindi*: Bola—; *Honduras*: Mahoe—; *Hova*: Varo—; *Indo-China*: Huu nap, Tua lam chieu—; *Java*: Waru—; *Konkani*: Bellipata—; *La Reunion*: Foulsapate—; *Luabo*: Mhola—; *Malay*: Ambaru, Baru, Baru laut, Dedap laut—; *Malayalam*: Nirparutti, Talipparutti—; *Manamgo*: Burfando—; *Mauritius*: Vaur—; *Mende* Bome-kowei—; *Mexico*: Mahagua, Masagua, Masahua—; *Mortlocks*: Gili-lau—; *New Caledonia*: Borao, Borao de marais, Borao rouge, Bourao, Eemi, Eimi, He, Ven—; *Nzima*: Nwotwea—; *Pampangan*: Balibago, Raguindi—; *Panama*: Majagua—; *Philippines*: Malabayo—; *Ponape*: Kalahau, Kalau—; *Porto Rico*: Emajagua—; *Rarotonga*: Au—; *Sakalave*: Masaizano—; *Samoa*: Fau—; *Sanskrit*: Bala—; *Seychelles*: Bois var—; *Sherbro*: Papam—; *Sinhalese*: Belepatta, Beligobel, Belipatta, Bellipatta—; *Swahili*: Mtakawa—; *Tagalog*: Balibago—; *Tahiti*: Fau—; *Tamil*: Nirpparutti—; *Telugu*: Ettagogu—; *Uriya*: Baniah, Baniya, Bariya, Kurubeli—; *Visayan*: Balabago, Malabago—; *West Indies*: Mahagua, Mahoe—; *Yap*: Kal—; *Zulu*: umLolo, umLolwa—.

14. **Hibiscus Trionum** Linn. occurs in the Western Himalaya, Kashmir, Simla, Bengal, Sind, Konkan. It is distributed over Southern Europe and the tropics of the Old World.

In China and Malaya an infusion of the flowers is taken for itching and painful skin diseases, and as a diuretic. The dried leaves are held to be stomachic.

Brahui: Lasura, Pihupulli—; *Cantonese*: Wo Sheung T'au—; *Chinese*: Ho Shang T'ou—; *Egypt*: Aimbaggara, Shebbet, Til-shitami—; *Iraq*: Jiljil—; *Malaya*: Woh seong tow—; *Spanish*: Aurora, Malva vejigosa, Malva vesicaria—.

15. **Hibiscus vitifolius** Linn. is a common, herbaceous bush, in the jungles and brushwoods of the hotter parts of India, from the North-West Provinces to Ceylon. It extends to tropical Africa and Australia.

The plant is mucilaginous. The roots provide a preparation used by Gold Coast women to kill head-lice.

Bengal: Bankapas—; *Fanti*: Ekyi, Nkyetan—; *Sanskrit*: Bharadvaji, Vanakarpasa—; *Telugu*: Karupatti—; *Yoruba*: Ofo odan, Okun agutan—.

(*To be continued*).